

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A control program structure of an ATM (Asynchronous Transfer Mode) switching system comprising:

a master function unit mounted at a processor board existing outside a switching system;

a protocol processing function unit mounted ~~within each~~ at a processor board existing in the switching system; and

a plurality of resource control function units respectively mounted within each processor board and for receiving a control request message through the protocol processing function unit from the master function unit and controlling a hardware resource of the switching system,

wherein the protocol processing function unit and the resource control function units are separately implemented from each other such that the protocol processing function unit or a corresponding resource control function unit may be upgraded without modifying the other respective function unit.

2. (Original) The structure according to claim 1, wherein the master function unit performs a master function of a standard protocol and the protocol processing function unit performs a slave function of the standard protocol.

3. (Original) The structure according to claim 2, wherein the standard protocol is a general switch management protocol.

4. (Previously Presented) The structure according to claim 1, wherein the protocol processing function unit is mounted at only one of said each processor board, and the plurality of resource control function units are separately mounted at each processor board of the switching system.

5. (Original) The structure according to claim 4, wherein the plurality of resource control function units interwork with each other to be operated.

6. (Currently Amended) A control program structure of an ATM (Asynchronous Transfer Mode) switching system comprising:
a master function unit for performing a master function of a standard protocol;

an application program for controlling the ATM switching system through the master function unit;

a protocol processing unit for interfacing with the master function unit through the standard protocol and processing a protocol message transmitted from the master function unit; and

a plurality of resource control function units for analyzing a control request message outputted from the protocol processing unit and controlling and managing a hardware resource,

wherein the protocol processing unit is independent of the plurality of resource control function units such that the protocol processing function unit or a corresponding resource control function unit may be upgraded without modifying the other respective function unit.

7. (Original) The structure according to claim 6, wherein the standard protocol is a general switch management protocol.

8. (Previously Presented) The structure according to claim 6, wherein the protocol processing unit is mounted at only one processor board within the switching

system, and the plurality of resource control function units are separately mounted at each processor board of the switching system.

9. (Previously Presented) The structure according to claim 6, wherein the protocol processing unit analyzes port information included in the received control request message and transmits a corresponding resource control message to one of the plurality of resource control function units.

10. (Previously Presented) The structure according to claim 6, wherein the protocol processing unit generates a child process for performing an appropriate function according to the type of the control request message and processes the corresponding resource control message.

11. (Previously Presented) The structure according to claim 6, wherein the plurality of resource control function units interwork with each other to be operated.

12. (Currently Amended) A method for controlling a hardware resource of an ATM (Asynchronous Transfer Mode) switching system, comprising:

receiving a resource control message through a standard protocol from a protocol master;

transmitting a resource control message from a protocol processing function unit to one of a plurality of the resource control function units according to port information of a received resource control message; and

performing a controlling operation for a hardware resource by the resource control function unit according to the type of the transmitted resource control message,

wherein the protocol processing function unit operates independently from the resource control function units such that the protocol processing function unit or a corresponding resource control function unit may be upgraded without modifying the other respective function unit.

13. (Original) The method according to claim 12, wherein the standard protocol is a general switch management protocol and the protocol processing function unit performs a slave function of the standard protocol.

14. (Previously Presented) The method according to claim 12, wherein the protocol processing function unit is mounted at only one processor board within the switching system, and the plurality of resource control function units are separately mounted at each processor board of the switching system.

15. (Previously Presented) The method according to claim 12, wherein when the resource control message is a connection control message, the resource control function unit interworks with other resource control function units, to process the resource control message

16. (Previously Presented) The method according to claim 12, wherein transmitting the resource control message comprises:

performing binding and synchronizing with the plurality of resource control function units;

performing synchronization with the protocol master;

being in a standby state for receiving the resource control message from the protocol master;

checking a protocol error of a message to discriminate the type of the message when the resource control message is received; and

generating an appropriate child process according to the type of the message as discriminated and transmitting a corresponding resource control message to the resource control function unit.

17. (Previously Presented) The method according to claim 16, wherein the child process comprises:

- a subroutine for transmitting a connection control request message;
- a subroutine for transmitting a statistics request message;
- a subroutine for processing a configuration request message or a configuration change informing message outputted from the resource control function unit; and
- a subroutine for processing a port state change informing message outputted from the resource control function unit.

18. (Previously Presented) The method according to claim 16, wherein the resource control message is transmitted to one of the plurality of resource control function units according to port information included in the control request message.

19. (Previously Presented) The method according to claim 12, wherein performing the controlling operation comprises:

- performing binding and synchronizing with the protocol processing function unit;
- transmitting configuration information of the switching system to the protocol processing function unit;

being in a standby state for receiving the resource control message from the protocol processing function unit;

checking an error of a corresponding message and discriminating the type of the message when the resource control message is received; and

generating an appropriate child process according to the type of the message as discriminated and processing the corresponding resource control message.

20. (Previously Presented) The method according to claim 19, wherein the child process comprises:

a subroutine for processing a connection control request message; and

a subroutine for processing a statistics request message or a configuration/state change informing message outputted from an operation maintenance block.